

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Excelco Developments Inc.

New York Manufacturing Extension Partnership

Excelco Developments, Inc. Goes Lean

Client Profile:

Excelco Developments, Inc., is a Tier II defense manufacturer for naval applications in undersea water and refueling. Established in 1947, the company's products are sold to three major accounts, Bechtel, Northrup Grumman and Boeing. Primary manufacturing activities include machining, fabrication, welding, assembly/ testing and inspection. The company currently employs 70 people at its facility in Silver Creek, New York.

Situation:

Although Excelco had maintained consistent growth and profitability, a major change in customer buying practices was negatively affecting the company's competitive position. Traditionally, most projects/orders tended to be large and normally lasted about 24 months. However, there was a sudden and dramatic change to multiple, smaller orders that typically were to be delivered within 16 weeks. Overall Excelco found that they were ill equipped to effectively adapt to these changes. As a result, on-time delivery was severely reduced, product quality declined due to order urgency, and employee morale suffered with a related increase in turnover. These issues caused a significant reduction in overall profitability for the company. Excelco's senior management believed that introduction of Lean manufacturing principles could help to address the above situation. It was believed that the company needed to take a more holistic approach for the enterprise to systematically and sequentially address all key areas along its value chain. This included order planning, project launch, materials management, production, shipping, etc. In addition, frequent and consistent communication with the customers was essential as part of this improvement initiative. The company contacted Insyte Consulting, a NIST MEP network affiliate and division of the New York Manufacturing Extension Partnership, for help.

Solution:

Insyte Consulting developed a series of workshops that provided the staff with a foundation and basic understanding of Lean. Next, a cross functional team was exposed to a Value Stream Mapping (VSM) exercise (both current and future states) for a typical project or order. Based on the results of the maps, work place organization (5S) and setup reduction initiatives were introduced in an effort to realize the desired future state. These changes provided immediate improvements in terms of organized tooling, the use of tool cribs/ racks, the introduction of visual controls and a significant reduction in machine setup time. As a result, production flow and throughput were significantly increased.

The second phase focused on project planning and project launch processes in the Engineering area. The company's former project management process, based on one individual, was replaced with a dual management approach that leveraged the strengths of both individuals. The Project Engineer completed the up-front planning activities and maintained close contact with the customer throughout the process. The Manufacturing Engineer became responsible for shop floor activities including project

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release, scheduling, project management and coordination of quality control and conformity to specifications and tolerances. These changes reduced the planning process from months to several weeks.

The third and largest phase extended the above engineering activities into the quoting and estimating aspects of the business. Although these could be considered primarily "lean office" activities, the improvements were subsequently coordinated with improvements on the shop floor. Originally, one individual had been responsible for estimating and quoting. This was found to be a cumbersome process that produced marginal results in terms of hit rate and sales volume generated. A cellular approach was set up in the office area, where three individuals functioned as a team within the quotation process. Key activities like bill of materials, procurement, routings etc. were systematically and efficiently completed. In addition, a prioritization scheme was introduced that evaluated quoting opportunities based on perceived value and likelihood of obtaining. This change reduced the number of marginal quotations submitted.

Results:

- * Increased sales by 85 percent.
- * Increased new operating margin by 50 percent.
- * Improved on-time delivery by 20 percent.
- * Increased shop efficiencies by 60 percent.
- * Increased employment by 20 percent.

Testimonial:

"The effectiveness of Lean manufacturing has enabled us to gain a significant competitive advantage, which will enable us to maintain future sales growth and increased profitability."

Chris Lanski, President